

P20468.A05

a minute-area light source that causes an illumination light beam to be incident on an object surface having a pattern formed thereon as an object to be read;

an objective lens that converges a light beam carrying the information of the pattern;

a1
cont. a spatial filter having a shading region that shades a portion of the light beam that forms an image of said light source from the light beam, said spatial filter shielding a specularly reflected component of the light beam and forming an image by the diffusely reflected component of the light beam; and

an imaging lens that forms the image of the pattern using the portion of the light beam that passes through said spatial filter.

a2 3. (Amended - Clean Copy) A pattern reading apparatus according to claim 16, wherein a distance L from said spatial filter to a surface of said objective lens nearest to said spatial filter satisfies the condition $0.06f_o < L < 0.95f_o$, where f_o represents the focal length of said objective lens.

4. (Amended - Clean Copy) The pattern reading apparatus according to claim 16, wherein said spatial filter is positioned such that the size of the image of said light source formed by said objective lens is minimized.

a3 9. (Amended - Clean Copy) A pattern reading apparatus, comprising:
a minute-area light source that causes an illumination light beam to be incident on an object surface having a pattern formed thereon as an object to be read;

P20468.A05

an objective lens that converges a light beam having the information of the pattern;

a spatial filter having a shading region for shading the light beam to form the image of said light source which is contained in the light beam having passed through said objective

Q 3 lens, said spatial filter shielding a specularly reflected component of the light beam and

Cont. forming an image by the diffusely reflected component of the light beam; and

an imaging lens that forms the image of the pattern from the portion of the light beam having passed through said spatial filter.

Q 4 11. (Amended - Clean Copy) The pattern reading apparatus according to claim 17, wherein the distance L from said spatial filter to the surface of said objective lens nearest to said spatial filter satisfies the condition $0.06f_o < L < 0.95f_o$, where f_o represents the focal length of said objective lens.

13. (Amended - Clean Copy) A pattern reading apparatus, comprising:

a minute-area light source;

Q 5 an objective lens that makes an illumination light beam from said minute-area light source incident on an object surface having a pattern formed thereon as an object to be read and converges a light beam reflected at the object surface;

a spatial filter, said spatial filter shielding a specularly reflected component of the light beam and forming an image by the diffusely reflected component of the light beam;

P20468.A05

an imaging lens that forms, at an imaging position, an image of the pattern from the
component of the light beam having passed through said spatial filter; and
an imaging element disposed at the imaging position of the pattern image that reads
the pattern.

Cancel claims 2, 10, 14 and 15 without prejudice or disclaimer of the subject matter.

Please enter the following claims for consideration by the Examiner:

--- 16. The pattern reading apparatus according to claim 1, said spatial filter being positioned such that a size of an image of said light source formed by said objective lens is smaller than a size of the image at a paraxial image point.

17. The pattern reading apparatus according to claim 9, said spatial filter being disposed nearer to said objective lens than a paraxial image point of the image of said light source.

18. The pattern reading apparatus according to claim 13, said spatial filter being disposed nearer to said objective lens than a paraxial image point of said light source formed through said objective lens, the spatial filter passing a diffused reflected component of the light beam which is contained in the reflected light beam having passed through the objective lens.

19. A pattern reading apparatus, comprising:

P20468.A05

a minute-area light source that causes an illumination light beam to be incident on an object surface having a pattern formed thereon as an object to be read;

an objective lens that converges a light beam carrying the information of the pattern;
and

a spatial filter having a shading region that shades a portion of the light beam that forms an image of the light source which is contained in the light beam, said spatial filter being configured so that at least a central portion of the light beam is blocked by the spatial filter.

20. The pattern reading apparatus according to claim 19, said spatial filter shielding a specularly reflected component of the light beam and forming an image by the diffused component of the light beam reflected from the pattern.

21. The pattern reading apparatus according to claim 19, said spatial filter being disposed nearer to said objective lens than a paraxial image point of the image of said light source.---

REMARKS

Upon entry of the present amendment, claims 1, 3, 4, 9, 11 and 13 will have been amended. Claims 2, 10, 14 and 15 will have been canceled. Further, claims 16-21 will have been submitted for consideration by the Examiner.